FENN COMMUNITY SYSTEM (PWS 2250018)
SOURCE WATER ASSESSMENT FINAL REPORT

March 26, 2002

State of Idaho
Department of Environmental Quality

Executive Summary

Under the Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the Act. This assessment is based on a land use inventory of the designated source water assessment area and sensitivity factors associated with the well and aquifer characteristics.

This report, *Source Water Assessment for Fenn Community System, Fenn, Idaho*, describes the public drinking water system, the boundaries of the zones of water contribution, and the associated potential contaminant sources located within these boundaries. This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. **The results should not be used as an absolute measure of risk and they should not be used to undermine public confidence in the water system.**

The Fenn Community drinking water system consists of one active well. The well has a high susceptibility to inorganic compounds (IOCs), volatile organic compounds (VOCs), and microbial contaminants and a moderate susceptibility to synthetic organic compounds (SOCs). The high susceptibility to IOCs and VOCs can be attributed to the detection of nitrate in 1995 and lead in 1993 at levels above the maximum contaminant levels (MCLs) and a detection of toluene in 1992. Although no SOCs have been detected thus far, increased levels of nitrate indicate a potential for SOC problems. A detection of total coliform bacteria at the wellhead in 2001 resulted in an automatic high susceptibility to microbial contaminants. The high system construction score and the predominant agricultural land of the area also contributed to the overall susceptibility of the well.

The current water chemistry issues that affect the Fenn Community drinking water system pertain to the detection of nitrate and lead above the MCLs, a detection of the VOC toluene, and a detection of total coliform bacteria. In January 1995, nitrate concentrations were recorded at 22.3 milligrams per liter, a level greater than the MCL of 10 mg/L. In September 1993, lead was recorded at 0.036 mg/L; the lead MCL is 0.015 mg/L. Also, in December 1992, toluene was detected in the water system, indicating a possible existing pathway for VOC contamination. Total coliform bacteria were detected at the wellhead in July 2001 and in the distribution system in September 2000 and again in July 2001.

No SOCs were recorded in the system; however, the land use is predominantly agricultural, indicating possible SOC contamination. Other IOCs including fluoride, copper, and selenium were detected in the water system at levels below the MCLs. Additionally, the delineated area of the well crosses a nitrate priority area.

This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a "pristine" area or an area with numerous industrial and/or agricultural land uses that require surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources. If the system should need to expand in the future, new well sites should be located in areas with as few potential sources of contamination as possible, and the site should be reserved and protected for this specific use.

For the Fenn Community System, drinking water protection activities should first focus on correcting any deficiencies outlined in the sanitary survey (an inspection conducted every five years with the purpose of determining the physical condition of a water system's components and its capacity). Also, disinfection practices should be implemented if microbial contamination becomes a problem. No chemicals should be stored or applied within the 50-foot radius of the wellhead. The City of Fenn may want to consider implementing engineering controls in order to reduce the amount of nitrate, lead, and toluene detected in the drinking water system. As much of the designated protection areas are outside the direct jurisdiction of the Fenn Community System, collaboration and partnerships with state and local agencies, and industry groups should be established and are critical to the success of drinking water protection. In addition, the well should maintain sanitary standards regarding wellhead protection.

Due to the time involved with the movement of ground water, drinking water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. A strong public education program should be a primary focus of any drinking water protection plan as the delineation encompasses urban and commercial land uses. Public education topics could include proper lawn and garden care practices, household hazardous waste disposal methods, proper care and maintenance of septic systems, and the importance of water conservation to name but a few. There are multiple resources available to help communities implement protection programs, including the Drinking Water Academy of the EPA.

A system must incorporate a variety of strategies in order to develop a comprehensive drinking water protection plan, be they regulatory in nature (i.e. zoning, permitting) or non-regulatory in nature (i.e. good housekeeping, public education, specific best management practices). For assistance in developing protection strategies please contact the Lewiston Regional Office of the Idaho Department of Environmental Quality or the Idaho Rural Water Association.

SOURCE WATER ASSESSMENT FOR FENN COMMUNITY SYSTEM, FENN, IDAHO

Section 1. Introduction - Basis for Assessment

The following sections contain information necessary to understand how and why this assessment was conducted. **It is important to review this information to understand what the rankings of this assessment mean.** Maps showing the delineated source water assessment area and the inventory of significant potential sources of contamination identified within that area are attached. The list of significant potential contaminant source categories and their rankings used to develop the assessment is also included.

Background

Under the Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative susceptibility to contaminants regulated by the Safe Drinking Water Act. This assessment is based on a land use inventory of the delineated assessment area and sensitivity factors associated with the wells and aquifer characteristics.

Level of Accuracy and Purpose of the Assessment

Since there are over 2,900 public water sources in Idaho, there is limited time and resources to accomplish the assessments. All assessments must be completed by May of 2003. An in-depth, site-specific investigation of each significant potential source of contamination is not possible. **Therefore, this assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. The results should <u>not be</u> used as an absolute measure of risk and they should <u>not be</u> used to undermine public confidence in the water system.**

The ultimate goal of the assessment is to provide data to local communities to develop a protection strategy for their drinking water supply system. The Idaho Department of Environmental Quality (DEQ) recognizes that pollution prevention activities generally require less time and money to implement than treatment of a public water supply system once it has been contaminated. DEQ encourages communities to balance resource protection with economic growth and development. The local community, based on its own needs and limitations, should determine the decision as to the amount and types of information necessary to develop a drinking water protection program. Wellhead or drinking water protection is one facet of a comprehensive growth plan, and it can complement ongoing local planning efforts.

Section 2. Conducting the Assessment

General Description of the Source Water Quality

The public drinking water system for the Fenn Community System is comprised of one ground water well that serves approximately 40 people through 13 connections. The well is located approximately 60 feet north of Highway 95 at the north end of the city of Fenn (Figure 1).

The current water chemistry issues that affect the Fenn Community drinking water system pertain to the detection of nitrate and lead above the MCLs, a detection of the VOC toluene, and a detection of total coliform bacteria. In January 1995, nitrate concentrations were recorded at 22.3 milligrams per liter, a level greater than the MCL of 10 mg/L. In September 1993, lead was recorded at 0.036 mg/L; the lead MCL is 0.015 mg/L. Also, in December 1992, toluene was detected in the water system, indicating a possible existing pathway for VOC contamination. Total coliform bacteria were detected at the wellhead in July 2001 and in the distribution system in September 2000 and again in July 2001.
No SOCs were recorded in the system; however, the land use is predominantly agricultural, indicating possible SOC contamination. Other IOCs including fluoride, copper, and selenium were detected in the water system at levels below the MCLs. Additionally, the delineated area of the well crosses a nitrate priority area.

Defining the Zones of Contribution – Delineation

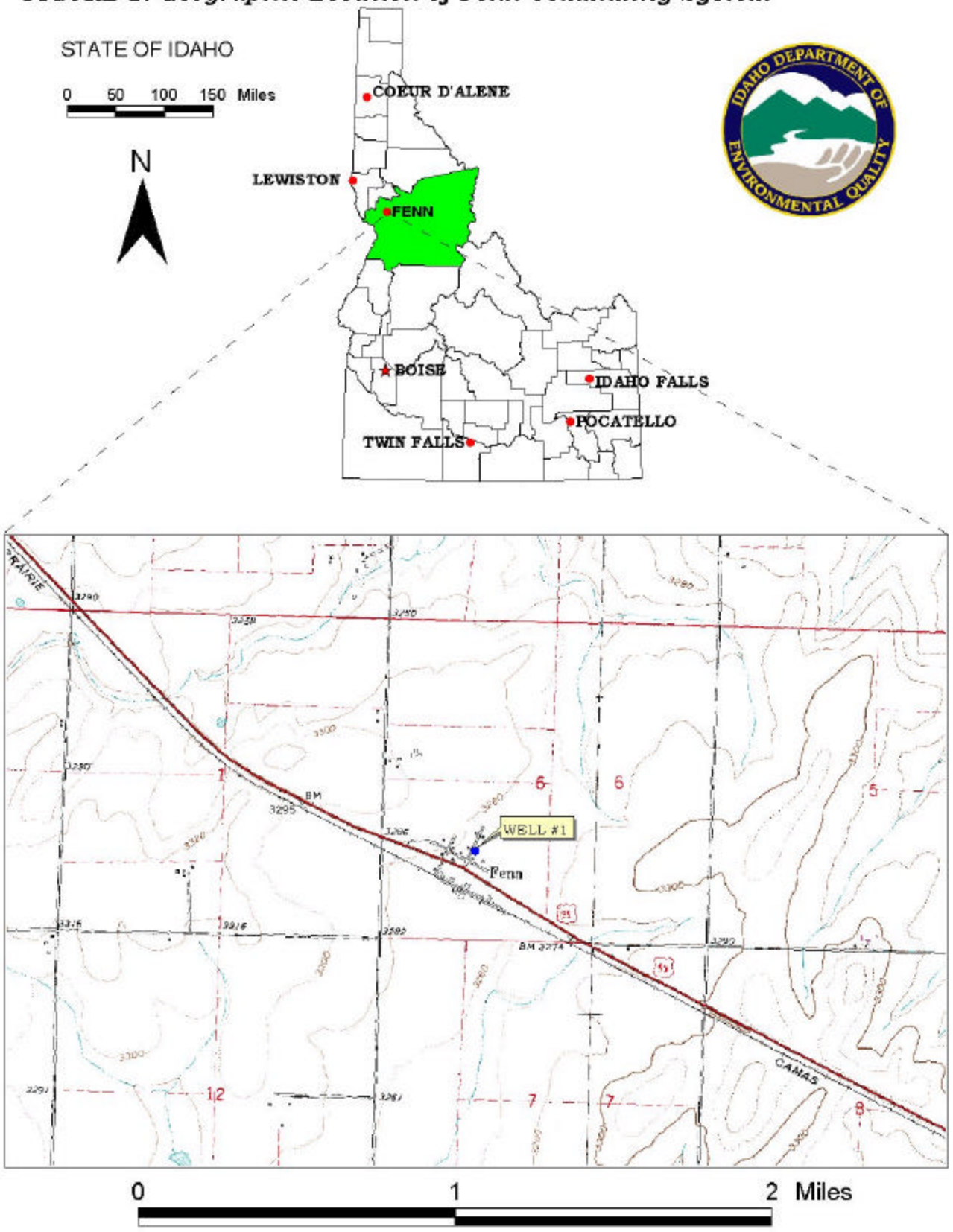
The delineation process establishes the physical area around a well that will become the focal point of the assessment. The process includes mapping the boundaries of the zone of contribution into time-of-travel (TOT) zones (zones indicating the number of years necessary for a particle of water to reach a well) for water in the aquifer. DEQ contracted with the University of Idaho to perform the delineations using a refined computer model approved by the EPA in determining the 3-year (Zone 1B), 6-year (Zone 2), and 10-year (Zone 3) TOT for water associated with the basalt aquifer of the Clearwater Plateau in the vicinity of the Fenn Community System well. The computer model used site specific data, assimilated by the University of Idaho from a variety of sources including operator input, local area well logs, and hydrogeologic reports (detailed below).

The conceptual hydrogeologic model for the area of the Fenn source wells is based on little known information and scarce data. The Fenn source well supplies water to the Fenn community. Geologic maps at a scale of 1:250,000 are used to interpret the geology (Gaston and Bennett, 1979; Rember and Bennett, 1979). Four nearby surface water bodies are thought to influence the ground water flow regime; these are the Salmon River, Johns Creek, Graves Creek and the South Fork of the Clearwater River. Based on the well log, the well is located in fractured basalt.

Wells located in basalt aquifers in northern Idaho produce up to 2,500 gpm. Discharge from the Fenn well is 125 gpm. Most of the ground water found in basalts is present in the vesicular contact, fracture zones or in the sediments between basalt flows. Static water level data exist for the source well.

Columbia River basalt covers most of the Fenn area (Gaston and Bennett, 1979). The source wells derive water from the fractured basalt aquifer. The local hydraulic gradient is generally toward the south-southeast.

FIGURE 1. Geographic Location of Fenn Community System



Based on the geologic maps by Gaston and Bennett (1979) and Rember and Bennett (1979) no structural features are in the near-field area of Fenn.

The Salmon River cuts through hundreds of feet of basalt. The river is assumed to gain water from the rock and to discharge into the Snake River. The Salmon River is thought to be a gaining creek for this reason and because it flows all year. Water in the river during baseflow conditions is from ground water.
Johns Creek and Graves Creek are also thought to be gaining because they flow year round. Headwaters of Johns Creek begin a few thousand meters south of Grangeville. The headwaters of Graves Creek begin about 8,000 m northwest of the Fenn. The creeks merge, downcut into the basalt and discharge into the Salmon River approximately 18,000 m south of Cottonwood.

The South Fork of the Clearwater River is believed to be gaining. The river cuts through the basalt gaining water from the aquifer. The river also flows year round. The headwaters of the South Fork begin about four miles south of Harpster. The South Fork then discharges into the main fork of the Clearwater River.

No aquifer recharge data are available for the Fenn area. In a study by Wyatt-Jaykim (1994) recharge to the central basin (Lewiston basin) was modeled as 1 in/yr; 2 in/yr was selected in the higher areas. Because the Fenn area lies at a higher elevation than much of the basin, precipitation rates are higher. At the nearby town of Grangeville the precipitation rate is 22.7 in/yr (Castelin, 1976) versus 13 in/yr in Lewiston-Clarkston (Cohen and Ralston, 1980). Recharge is therefore expected to be greater at Fenn than at Lewiston.

The capture zone delineated herein is based upon limited data and must be taken as best estimates. If more data become available in the future this delineation should be adjusted based on additional modeling incorporating the new data.

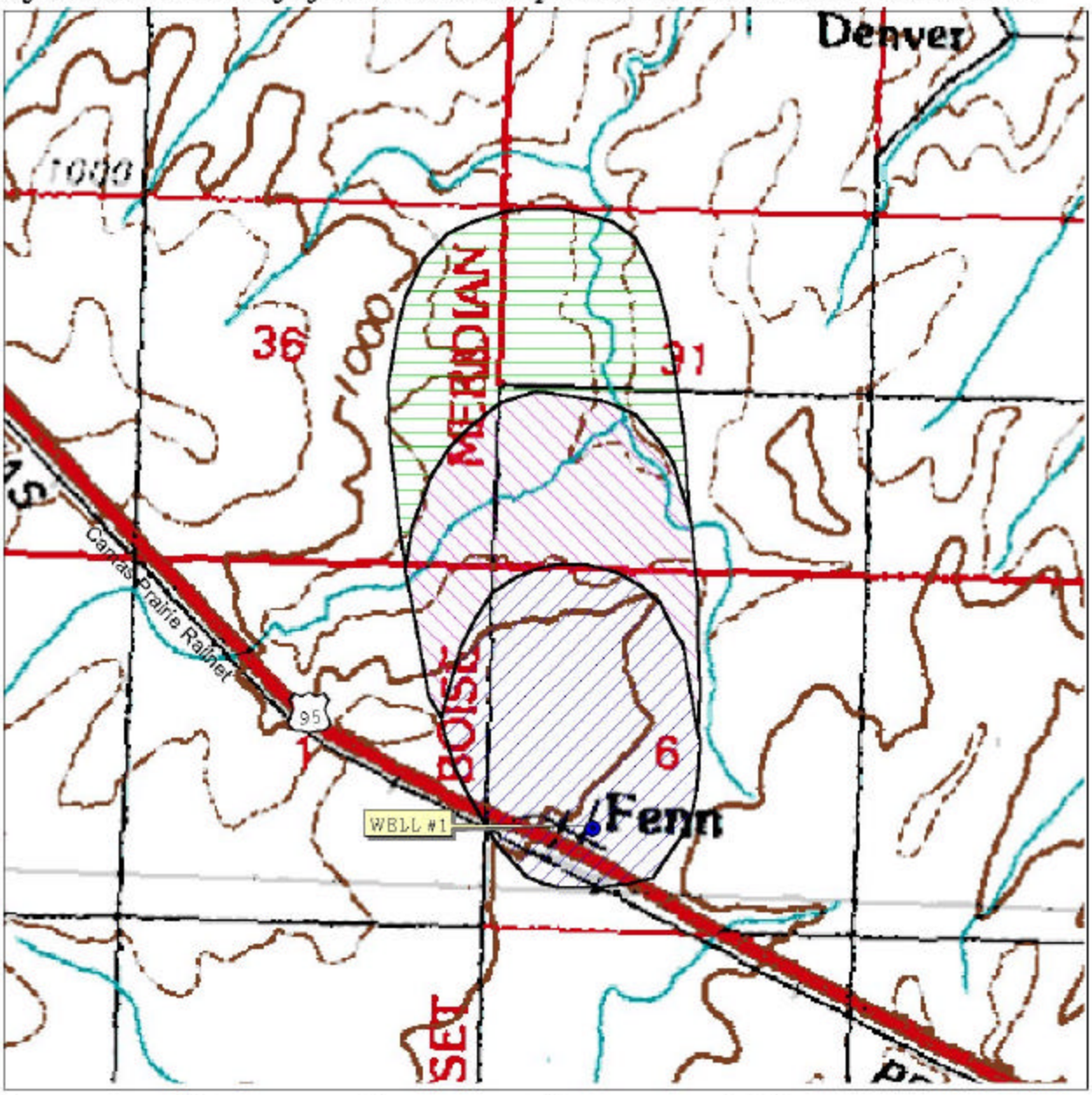
The delineated source water assessment area for the Fenn Community System well can best be described as a corridor extending north from the wellhead for approximately 2 miles and is approximately one-half mile wide (Figure 2). It contains Highway 95 and the Camas Prairie Railnet in the 3-year TOT zone. The actual data used by the University of Idaho in determining the source water assessment delineation area is available from DEQ upon request.

Identifying Potential Sources of Contamination

A potential source of contamination is defined as any facility or activity that stores, uses, or produces, as a product or by-product, the contaminants regulated under the Safe Drinking Water Act and has a sufficient likelihood of releasing such contaminants at levels that could pose a concern relative to drinking water sources. The goal of the inventory process is to locate and describe those facilities, land uses, and environmental conditions that are potential sources of groundwater contamination. The locations of potential sources of contamination within the delineation areas were obtained by field surveys conducted by DEQ and from available databases.

Land use within the immediate area of the Fenn Community System well consists of mostly residential land use while the surrounding area is predominantly potential agricultural land.

Figure 2. Fenn Community System Delineation Map and Potential Contaminant Source Locations



It is important to understand that a release may never occur from a potential source of contamination provided they are using best management practices. Many potential sources of contamination are regulated at the federal level, state level, or both to reduce the risk of release. Therefore, when a business, facility, or property is identified as a potential contaminant source, this should not be interpreted to mean that this business, facility, or property is in violation of any local, state, or federal environmental law or regulation. What it does mean is that the potential for contamination exists due to the nature of the business, industry, or operation. There are a number of methods that water systems can use to work cooperatively with potential sources of contamination, including educational visits and inspections of stored materials. Many owners of such facilities may not even be aware that they are located near a public water supply well.

Contaminant Source Inventory Process

A two-phased contaminant inventory of the study area was conducted in October and November 2001. The first phase involved identifying and documenting potential contaminant sources within the Fenn Community System source water assessment area (Figure 2) through the use of computer databases and Geographic Information System (GIS) maps developed by DEQ. The second, or enhanced, phase of the contaminant inventory involved contacting the operator to identify and add any additional potential sources in the area.

The delineated source water assessment area of the Fenn Community System well contains two major transportation corridors: Highway 95 and the Camas Prairie Railnet (Table 1). These transportation corridors can contribute leachable contaminants to the aquifer in the event of an accidental spill or release.

Table 1. Fenn Community System Well Potential Contaminant Inventory.

Site	Description of Source[1]	TOT[2] Zone	Source of Information	Potential Contaminants[3]
	Highway 95	0 – 3	GIS Map	IOC, VOC, SOC, Microbes
	Camas Prairie Railnet	0 – 10	GIS Map	IOC, VOC, SOC, Microbes

[2] **TOT = time-of-travel (in years) for a potential contaminant to reach the wellhead**

[3] **IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical**

Section 3. Susceptibility Analysis

The well's susceptibility to contamination was ranked as high, moderate, or low risk according to the following considerations: hydrologic characteristics, physical integrity of the well, land use characteristics, and potentially significant contaminant sources. The susceptibility rankings are specific to a particular potential contaminant or category of contaminants. Therefore, a high susceptibility rating relative to one potential contaminant does not mean that the water system is at the same risk for all other potential contaminants. The relative ranking that is derived for each well is a qualitative, screening-level step that, in many cases, uses generalized assumptions and best professional judgement. Attachment A contains the susceptibility analysis worksheets for the system. The following summaries describe the rationale for the susceptibility ranking.

Hydrologic Sensitivity

The hydrologic sensitivity of a well is dependent upon four factors: the surface soil composition, the material in the vadose zone (between the land surface and the water table), the depth to first ground water, and the presence of a 50-foot thick fine-grained zone above the producing zone of the well. Slowly draining soils such

as silt and clay typically are more protective of ground water than coarse-grained soils such as sand and gravel. Similarly, fine-grained sediments in the subsurface and a water depth of more than 300 feet protect the ground water from contamination.

Hydrologic sensitivity is moderate for the well of the Fenn Community System (Table 2). Regional soil data places the delineated area within poor to moderately drained soils, which can decrease the potential downward migration of contaminants toward the aquifer. The well log indicates that the vadose zone is composed predominantly of basalt. First ground water is recorded between 413 and 420 feet.

Well Construction

Well construction directly affects the ability of the well to protect the aquifer from contaminants. System construction scores are reduced when information shows that potential contaminants will have a more difficult time reaching the intake of the well. Lower scores imply a system is less vulnerable to contamination. For example, if the well casing and annular seal both extend into a low permeability unit, then the possibility of contamination is reduced and the system construction score goes down. If the highest production interval is more than 100 feet below the water table, then the system is considered to have better buffering capacity. If the wellhead and surface seal are maintained to standards, as outlined in sanitary surveys, then contamination down the well bore is less likely. If the well is protected from surface flooding and is outside the 100-year floodplain, then contamination from surface events is reduced.

The Fenn Community System well rated high for system construction. A sanitary survey for the system was unavailable, preventing a determination of the maintenance of the wellhead and surface seals and whether the well is properly protected from surface flooding. The well log provided some information concerning the construction of the well.

The well was drilled in 1978 to a depth of 472 feet. It has an 8-inch diameter casing to 390 feet into "black basalt with green seams." The static water level is found at 200 feet.

A determination was made as to whether current public water system (PWS) construction standards are being met. Though the well may have been in compliance with standards when it was completed, current PWS well construction standards are more stringent. The Idaho Department of Water Resources *Well Construction Standards Rules* (1993) require all PWSs to follow DEQ standards as well. IDAPA 58.01.08.550 requires that PWSs follow the *Recommended Standards for Water Works* (1997) during construction. These standards include provisions for well screens, pumping tests, and casing thicknesses to name a few. Table 1 of the *Recommended Standards for Water Works* (1997) lists the required steel casing thickness for various diameter wells. Eight-inch diameter wells require a 0.322-inch thick casing. As such, the well was assessed an additional point in the system construction rating.

Potential Contaminant Source and Land Use

The Fenn Community System well rated moderate for IOCs (i.e. nitrates, arsenic) and SOCs (i.e. pesticides), and low for VOCs (i.e. petroleum products, chlorinated solvents) and microbial contaminants (i.e. bacteria). The predominant agricultural land surrounding the well combined with the limited number of potential contaminant sources contributed to land use scores of the well.

Final Susceptibility Ranking

An IOC detection above a drinking water standard MCL, any detection of a VOC or SOC, or a detection of total coliform bacteria or fecal coliform bacteria at the wellhead will automatically give a high susceptibility rating to a well despite the land use of the area because a pathway for contamination already exists. In this case, the detection of nitrate and lead in the well at levels above the MCLs resulted in an automatic high susceptibility to IOCs. Furthermore, a detection of toluene automatically resulted in a high susceptibility to VOCs and a detection of total coliform bacteria at the wellhead automatically resulted in a high susceptibility to microbial contamination. Additionally, if there are contaminant sources located within 50 feet of the source then the wellhead will automatically get a high susceptibility rating. Hydrologic sensitivity and system construction scores are heavily weighted in the final scores. Having multiple potential contaminant sources in the 0 to 3-year time of travel zone (Zone 1B) and agricultural land contribute greatly to the overall ranking. In terms of total susceptibility, the Fenn Community System well rates high susceptibility to IOCs, VOCs and microbial contaminants and rates moderate susceptibility to SOCs.

Table 2. Summary of Fenn Community System Susceptibility Evaluation

Well	**Susceptibility Scores[1]**									
	Hydrologic Sensitivity	Contaminant Inventory				System Construction	**Final Susceptibility Ranking**			
		IOC	VOC	SOC	Microbials		IOC	VOC	SOC	Microbials
Well #1	M	M	L	M	L	H	H(*)	H*	M	H(*)

[1]H = High Susceptibility, M = Moderate Susceptibility, L = Low Susceptibility,
IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical
H(*) = A high number of points resulting in a high score as well as an automatic high score due to a detection of nitrate and lead above the MCLs and a detection of total coliform bacteria at the wellhead
H* = An automatic high score due to the detection of toluene in the well

Susceptibility Summary

Overall, the well of the Fenn Community System has a high susceptibility to IOCs, VOCs and microbial contaminants and a moderate susceptibility to SOCs. The detection of nitrate and lead at levels above the MCLs resulted in an automatic high susceptibility of the well to IOCs. The detection of toluene resulted in an automatic high susceptibility to VOCs and a detection of total coliform bacteria the wellhead resulted in an automatic high susceptibility to microbial contaminants. The high system construction score combined with the limited number of potential contaminant sources also contributed to the overall susceptibility of the well.

The current water chemistry issues that affect the Fenn Community drinking water system pertain to the detection of nitrate and lead above the MCLs, a detection of the VOC toluene, and a detection of total coliform bacteria at the wellhead. In January 1995, nitrate concentrations were recorded at 22.3 milligrams per liter, a level greater than the MCL of 10 mg/L. In September 1993, lead was recorded at 0.036 mg/L; the lead MCL is 0.015 mg/L. Also, in December 1992, toluene was detected in the water system, indicating a possible existing pathway for VOC contamination. Total coliform bacteria were detected at the wellhead in July 2001 and in the distribution system in September 2000 and again in July 2001.

No SOCs were recorded in the system; however, the land use is predominantly agricultural, indicating possible SOC contamination. Other IOCs, fluoride, copper, and selenium were detected in the water system at levels below the MCLs. Additionally, the delineated area of the well crosses a nitrate priority area.

Section 4. Options for Drinking Water Protection

The susceptibility assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what the susceptibility ranking a source receives, protection is always important. Whether the source is currently located in a "pristine" area or an area with numerous industrial and/or agricultural land uses that require surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

An effective drinking water protection program is tailored to the particular local drinking water protection area. A community with a fully developed drinking water protection program will incorporate many strategies. For the Fenn Community System, drinking water protection activities should first focus on correcting any deficiencies outlined in the sanitary survey including protection of the well from surface flooding. Also, disinfection practices should be implemented if microbial contamination becomes a problem. No chemicals should be stored or applied within the 50-foot radius of the wellhead. It is preferable to store or apply chemicals no closer to the wellhead than the 10 TOT zone. The City of Fenn may want to consider implementing engineering controls in order to reduce the amount of nitrate, lead, and toluene detected in the drinking water system. As much of the designated protection areas are outside the direct jurisdiction of the Fenn Community System, collaboration and partnerships with state and local agencies, and industry groups should be established and are critical to the success of drinking water protection. In addition, the well should maintain sanitary standards regarding wellhead protection.

Due to the time involved with the movement of ground water, drinking water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. A strong public education program should be a primary focus of any drinking water protection plan as the delineation encompasses urban and commercial land uses. Public education topics could include proper lawn and garden care practices, household hazardous waste disposal methods, proper care and maintenance of septic systems, and the importance of water conservation to name but a few. There are multiple resources available to help communities implement protection programs, including the Drinking Water Academy of the EPA.

A system must incorporate a variety of strategies in order to develop a comprehensive drinking water protection plan, be they regulatory in nature (i.e. zoning, permitting) or non-regulatory in nature (i.e. good housekeeping, public education, specific best management practices). For assistance in developing protection strategies please contact the Lewiston Regional Office of the Idaho Department of Environmental Quality or the Idaho Rural Water Association.

Assistance

Public water supplies and others may call the following DEQ offices with questions about this assessment and to request assistance with developing and implementing a local protection plan. In addition, draft protection plans may be submitted to the DEQ office for preliminary review and comments.

Lewiston Regional DEQ Office (208) 799-4370

State DEQ Office (208) 373-0502

Website: http://www2.state.id.us/deq

Water suppliers serving fewer than 10,000 persons may contact John Bokor, Idaho Rural Water Association, at 1-800-962-3257 for assistance with drinking water protection (formerly wellhead protection) strategies.

POTENTIAL CONTAMINANT INVENTORY
LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as ASuperfund≅ is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.)

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5 mg/L.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.

References Cited

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Attachment A

Fenn Community System Susceptibility Analysis Worksheet

The final scores for the susceptibility analysis were determined using the following formulas:

1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.2)

2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.375)

Final Susceptibility Scoring:

0 - 5 Low Susceptibility

6 - 12 Moderate Susceptibility

≥ 13 High Susceptibility

Ground Water Susceptibility Report Public Water System Name : FENN COMMUNITY SYSTEM Well# : WELL #1

Public Water System Number 2250018 2/5/02 10:39:31 AM

1. System Construction		SCORE				
Drill Date		2/19/78				
Driller Log Available		YES				
Sanitary Survey (if yes, indicate date of last survey)		YES	0			
Well meets IDWR construction standards		NO	1			
Wellhead and surface seal maintained		NO	1			
Casing and annular seal extend to low permeability unit		NO	2			
Highest production 100 feet below static water level		NO	1			
Well located outside the 100 year flood plain		NO	1			
	Total System Construction Score		6			
2. Hydrologic Sensitivity						
Soils are poorly to moderately drained		YES	0			
Vadose zone composed of gravel, fractured rock or unknown		YES	1			
Depth to first water > 300 feet		NO	1			
Aquitard present with > 50 feet cumulative thickness		NO	2			
	Total Hydrologic Score		4			
3. Potential Contaminant / Land Use - ZONE 1A			IOC Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A	IRRIGATED PASTURE		1	1	1	1
Farm chemical use high		NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A		YES	YES	YES	NO	YES
	Total Potential Contaminant Source/Land Use Score - Zone 1A		1	1	1	1
Potential Contaminant / Land Use - ZONE 1B						
Contaminant sources present (Number of Sources)		YES	2	2	2	2
(Score = # Sources X 2) 8 Points Maximum			4	4	4	4
Sources of Class II or III leacheable contaminants or		YES	4	2	2	
4 Points Maximum			4	2	2	
Zone 1B contains or intercepts a Group 1 Area		YES	2	0	0	0
Land use Zone 1B	Greater Than 50% Non-Irrigated Agricultural		2	2	2	2
	Total Potential Contaminant Source / Land Use Score - Zone 1B		12	8	8	6
Potential Contaminant / Land Use - ZONE II						
Contaminant Sources Present		NO	0	0	0	
Sources of Class II or III leacheable contaminants or		YES	1	0	1	
Land Use Zone II	Greater Than 50% Non-Irrigated Agricultural		1	1	1	
	Potential Contaminant Source / Land Use Score - Zone II		2	1	2	0
Potential Contaminant / Land Use - ZONE III						
Contaminant Source Present		NO	0	0	0	
Sources of Class II or III leacheable contaminants or		NO	0	0	0	
Is there irrigated agricultural lands that occupy > 50% of		NO	0	0	0	
	Total Potential Contaminant Source / Land Use Score - Zone III		0	0	0	0
Cumulative Potential Contaminant / Land Use Score			15	10	11	7
4. Final Susceptibility Source Score			13	12	12	13
5. Final Well Ranking			High	High	Moderate	High